Further Observations of Comet Coddington (c 1898). By
John Tebbutt.

Having now brought my observations of this comet to a close,
I herewith, in accordance with my promise, forward to you my
second, and last, series of positions.   The whole work of the two
series embraces 102 nights, from 1898 June 15, to 1899 February
15, 768 comparisons, and 137 comparison stars.   The observations
made on June 22, 26, 29, July 3, 5, 6, 21, August 19, September
7, 10, 30, October 18, November 2, December 11, January 6, 16,
30, and February 14, 15, were more or less unsatisfactory.   The
comparisons of September 10 were especially so, for three reasons.
The difference of north polar distance of the two objects was so
great that they were with difficulty embraced within the square
bar-micrometer ; secondly, the comet was almost in contact with
a 9th magnitude star, and therefore rendered faint ; and, thirdly,
the second reappearances of the comparison star, and the first dis-
appearances of the comet at the edges of the micrometer bars,
were almost simultaneous.   On January 16 I could not find the
comet as a separate object, but I noticed that a star of the 9th
magnitude, close to its ephemeris-position, appeared slightly
nebulous as it disappeared and reappeared at the edges of the
bars.   This star, which is identical with No. 247 of Zone $-50°$
of the *Cape Photographic Durchmusterung*, was therefore
observed for the comet.   The adopted mean places of the com-
parison stars are throughout the means, with equal weights, from
the catalogues cited.   An error, however, exists in the deter-
mination of the mean R.A. of Star No. 19 in my former
communication.   The seconds should be $34^s.89$ instead of $34^s.78$,
and the seconds of the apparent R.A. of the comet for July 5
will accordingly be $20^s.02$.

Observations of Comet Coddington (c 1898).

Dates, 1898 and 1899.	Windsor Mean Time. (h m s)	Comet—Star Δ R.A. (m s)	Comet—Star Δ N.P.D. (' ")	No. of Comps.	Comet's Apparent R.A. (h m s)	Comet's Apparent N.P.D. (° ' ")	Log. pΔ for R.A.	Log. pΔ for N.P.D.	Comp. Star.
Oct. 31	8 15 48	+ 5 37·25	+ 1 47·3	4	15 7 23·14	168 47 1·6	0·353	0·625	93
Nov. 2	8 20 16	− 3 37·35	+ 4 22·9	2	15 20 25·63	169 42 14·1	0·391	0·616	94
5	8 19 17	+ 3 25·12	− 6 3·2	5	15 44 38·45	171 2 43·2	0·463	0·562	95
10	7 50 36	− 1 34·70	+ 0 51·1	3	16 45 41·36	173 2 36·5	0·607	0·123	96
14	8 53 39	− 9 27·57	− 7 3·7	3	18 3 46·52	174 10 32·0	0·684	0·102	97
Dec. 1	8 46 5	− 2 40·71	+ 6 5·8	5	23 23 37·80	169 35 55·7	0·146	n0·728	98
2	9 7 11	+ 8 26·14	− 6 26·8	5	23 31 50·90	169 1 31·1	0·173	n0·699	99
8	8 56 31	− 0 37·16	− 3 13·0	8	0 8 43·30	165 25 29·5	9·979	n0·700	100
8	10 11 53	− 0 21·63	− 5 15·9	8	0 8 58·83	165 23 26·6	0·161	n0·550	100
9	9 2 53	+ 9 44·66	− 0 36·8	4	0 13 28·13	164 47 37·7	9·980	n0·686	101
10	9 22 42	+ 4 54·07	− 5 28·6	8	0 17 57·55	164 9 2·4	0·018	n0·649	102
11	9 33 57	+ 4 3·18	− 5 17·7	6	0 22 9·93	163 30 21·8	0·029	n0·621	103
13	9 17 33	− 1 48·30	+ 7 27·2	8	0 29 45·61	162 13 9·8	9·956	n0·636	104
29	9 7 21	+ 1 59·07	+ 4 17·6	6	1 12 10·18	151 37 5·5	9·791	n0·460	105
Jan. 1	8 50 5	− 0 16·88	− 1 28·5	10	1 18 2·10	149 37 55·7	9·734	n0·450	106
2	9 3 20	+ 3 48·07	+ 1 7·6	6	...	...	9·766	n0·396	107
2	9 3 20	+ 4 6·35	+ 8 17·1	6	...	...	9·766	n0·396	108
3	8 51 56	− 0 45·86	+10 4·5	6	...	...	9·734	n0·408	109
3	8 51 56	− 2 24·94	− 0 5·3	6	...	...	9·734	n0·408	110
4	9 8 29	− 6 50·07	+ 7 22·3	8	1 23 36·90	147 38 41·5	9·772	n0·335	111
6	9 5 14	− 0 26·38	− 9 28·9	10	1 27 6·91	146 19 58·1	9·759	n0·297	112
7	8 57 3	− 2 59·45	− 4 40·6	3	1 28 49·34	145 41 8·0	9·738	n0·301	113

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Dates, 1898 and 1899.	Windsor Mean Time. h m s	Comet—Star. Δ R.A. m s	Δ N.P.D. ′ ″	No. of Comps.	Comet's Apparent R.A. h m s	N.P.D. ° ′ ″	Log. ρΔ for R.A.	N.P.D.	Comp. Star.
Jan. 7	8 57 3	−7 10·55	+ 1 9·9	3	1 28 49·58	145 41 4·0	9·738	n0·301	114
9	9 24 41	−6 23·79	+ 7 36·8	10	1 32 12·78	144 22 37·0	9·790	n0·101	115
12	9 40 7	+3 10·49	+ 5 47·6	7	...	...	9·806	n9·773	116
12	9 40 7	−6 16·09	+ 8 11·5	7	1 37 6·33	142 26 42·2	9·806	n9·773	117
13	8 51 7	+8 9·21	+11 24·9	2	1 38 37·98	141 49 49·8	9·716	n0·140	118
14	9 19 33	+0 26·08	+ 2 5·5	10	1 40 13·85	141 11 12·8	9·769	n9·877	119
14	9 19 33	−1 55·50	− 8 14·7	10	1 40 13·92	141 11 11·8	9·769	n9·877	120
15	9 31 19	+4 7·20	+ 0 9·6	7	1 41 47·70	140 33 13·2	9·786	n9·609	121
15	9 31 19	−1 1·26	− 2 30·6	7	1 41 47·51	140 33 11·5	9·786	n9·609	122
15	9 31 19	−5 12·76	− 9 19·3	7	1 41 47·86	140 33 13·1	9·786	n9·609	123
16	9 27 35	+2 31·30	− 3 51·5	4	...	...	9·778	n9·558	124
30	9 0 17	+1 47·31	− 3 7·6	6	...	...	9·724	9·870	125
Feb. 1	9 11 19	+7 8·66	− 6 32·0	7	2 6 4·71	130 29 23·5	9·738	0·060	126
1	9 11 19	+6 57·91	− 7 23·2	7	2 6 5·08	130 29 22·6	9·738	0·060	127
2	9 10 48	+5 22·86	− 5 10·3	8	2 7 25·59	129 56 11·8	9·737	0·095	128
3	9 6 2	−6 31·68	− 3 12·7	6	2 8 45·89	129 23 25·5	9·731	0·102	129
3	9 6 2	−7 48·41	− 6 27·6	6	2 8 45·56	129 23 23·8	9·731	0·102	130
6	8 58 58	−7 11·84	− 0 38·8	6	2 12 44·54	127 46 48·8	9·722	0·161	131
6	8 58 58	−7 32·63	− 2 24·7	6	2 12 44·90	127 46 46·2	9·722	0·161	132
9	8 49 9	−4 6·46	− 7 51·1	7	2 16 40·05	126 12 40·9	9·711	0·200	133
10	8 38 32	+1 42·14	+ 7 28·6	10	2 17 56·73	125 42 4·3	9·698	0·180	134
13	9 33 38	−1 53·39	− 5 34·6	4	2 21 52·66	124 10 22·2	9·750	0·431	135
14	8 36 26	−2 52·27	+ 8 5·3	8	2 23 6·32	123 41 38·8	9·698	0·269	136
15	8 27 54	−3 31·78	+ 9 26·8	3	2 24 22·34	123 12 42·6	9·688	0·260	137

Mean Places of the Comparison Stars for the Beginning of the Year of Observation.

Comp. Star.	Mean R.A.	Red. to App. R.A.	Mean N.P.D.	Red. to App. N.P.D.	Authorities.
	h m s	s	° ′ ″	″	
93	15 1 44·04	+ 1·85	168 44 56·4	+ 17·9	Argent. Gen. Cat. 20477; Stone, 8214.
94	15 24 0·57	+ 2·41	169 37 33·5	+ 17·7	Gilliss' Cat. 1850, 10985.
95	15 41 10·48	+ 2·85	171 8 29·3	+ 17·1	Gilliss' Cat. 1850, 11203.
96	16 47 10·75	+ 5·31	173 1 29·9	+ 15·5	Gilliss' Cat. 1850, 12063.
97	18 13 5·03	+ 9·06	174 17 23·5	+ 12·2	Gilliss' Cat. 1850, 13100.
98	23 26 11·59	+ 6·92	169 29 55·2	− 5·3	Gilliss' Cat. 1850, 16397.
99	23 23 18·03	+ 6·73	169 8 3·1	− 5·2	Gilliss' Cat. 1850, 16376.
100	0 9 15·18	+ 5·28	165 28 49·2	− 6·7	Argent Gen. Cat. 139; Stone, 68.
101	0 3 38·30	+ 5·17	164 48 21·1	− 6·6	Argent. Gen. Cat. 45; Stone, 22.
102	0 12 58·47	+ 5·01	164 14 37·8	− 6·8	Gilliss' Cat. 1850, 104.
103	0 18 1·87	+ 4·88	163 35 46·4	− 6·9	Gilliss' Cat. 1850, 164.
104	0 31 29·30	+ 4·61	162 5 49·8	− 7·2	Argent. Gen. Cat. 534.
105	1 10 7·37	+ 3·74	151 32 55·6	− 7·7	Argent. Gen. Cat. 1170; Stone, 480; suspected double.
106	1 18 17·63	+ 1·35	149 39 13·0	+ 11·2	Argent. Gen. Cat. 1312; Stone, 534.
107	1 16 7	+ 1·29	148 56	+ 11·2	Equatorial. $9\frac{1}{2}$ mag.
108	1 15 49	+ 1·29	148 49	+ 11·1	Equatorial. $9\frac{1}{2}$ mag.
109	1 22 29	+ 1·31	148 8	+ 11·0	Equatorial. $9\frac{1}{2}$ mag.
110	1 24 8	+ 1·32	148 18	+ 11·1	Equatorial. $9\frac{1}{2}$ mag.
111	1 30 25·64	+ 1·33	147 31 8·2	+ 11·0	Argent. Gen. Cat. 1536; Stone, 627.
112	1 27 32·05	+ 1·24	146 29 16·1	+ 10·9	Argent. Gen. Cat. 1479.
113	1 31 47·55	+ 1·24	145 45 37·8	+ 10·8	Argent. Gen. Cat. 1559; Stone, 637.
114	1 35 58·85	+ 1·28	145 39 43·3	+ 10·8	Argent. Gen. Cat. 1635; Stone, 669.
115	1 38 35·34	+ 1·23	144 14 49·6	+ 10·6	Argent. Gen. Cat. 1681; Stone, 683.
116	1 33 55	+ 1·12	142 21	+ 10·3	Equatorial. $8\frac{3}{4}$ mag.
117	1 43 21·24	+ 1·18	142 18 20·3	+ 10·4	Argent. Gen. Cat. 1759; Stone, 711.
118	1 30 27·70	+ 1·07	141 38 14·7	+ 10·2	Argent. Gen. Cat. 1534.
119	1 39 46·66	+ 1·11	141 8 57·1	+ 10·2	Argent. Gen. Cat. 1696; Stone, 686.
120	1 42 8·30	+ 1·12	141 19 16·3	+ 10·2	Argent. Gen. Cat. 1733; Stone, 702.

Comp. Star.	Mean R.A.	Red. to App. R.A.	Mean N.P.D.	Red. to App. N.P.D.	Authorities.
	h m s	s	° ′ ″	″	
121	1 37 39·43	+1·07	140 32 53·5	+10·1	Argent. Gen. Cat. 1665 ; Stone, 677.
122	1 42 47·67	+1·10	140 35 32·0	+10·1	Argent. Gen. Cat. 1746.
123	1 46 59·49	+1·13	140 42 22·2	+10·2	Argent. Gen. Cat. 1816 ; Stone, 738.
124	1 40 45	+1·07	140 0	+10·0	Equatorial. 9 mag.= Cape Phot. Durch. −50°.239.
125	2 1 34	+0·93	131 39	+ 8·7	Equatorial. 8½ mag.= Cape Phot. Durch. −41°.192.
126	1 58 55·17	+0·88	130 35 47·2	+ 8·3	Argent. Gen. Cat. 2046.
127	1 59 6·29	+0·88	130 36 37·5	+ 8·3	Argent. Gen. Cat. 2053.
128	2 2 1·85	+0·88	130 1 13·8	+ 8·3	Argent. Gen. Cat. 2110 ; Stone, 835.
129	2 15 16·63	+0·94	129 26 29·7	+ 8·5	Argent. Gen. Cat. 2377 ; Stone, 926.
130	2 16 33·02	+0·95	129 29 42·9	+ 8·5	Argent. Gen. Cat. 2406.
131	2 19 55·46	+0·92	127 47 19·4	+ 8·2	Argent. Gen. Cat. 2485.
132	2 20 16·61	+0·92	127 49 2·7	+ 8·2	Argent. Gen. Cat. 2489 ; Stone, 959.
133	2 20 45·63	+0·88	126 20 24·2	+ 7·8	Argent. Gen. Cat. 2506.
134	2 16 13·74	+0·85	125 34 28·2	+ 7·5	Argent. Gen. Cat. 2399.
135	2 23 45·21	+0·84	124 15 49·5	+ 7·3	Argent. Gen. Cat. 2565 ; Stone, 981 ; Radcliffe, 1890, 577.
136	2 25 57·75	+0·84	123 33 26·3	+ 7·2	Argent. Gen. Cat. 2617 ; Stone, 999.
137	2 27 53·28	+0·84	123 3 8·7	+ 7·1	Yarnall₃ 1165 ; Argent. Gen. Cat. 2657.

Observatory : Peninsula, Windsor, New South Wales, 1899 Feb. 27.

Observation of Tuttle's Comet (b 1899) made with the 30-inch Reflector of the Thompson Equatorial at the Royal Observatory, Greenwich.

(*Communicated by the Astronomer Royal.*)

On March 14 a photograph of *Tuttle's* Periodical Comet was obtained with the 30-inch reflector, with exposures of 10^m and 6^m. The positions of the comet and of eight comparison stars, as shown by the 10^m exposure, were measured, and the following place of the comet was obtained :—

Date.	G.M.T.	Apparent R.A.	Apparent Decl.	Log Δ.	Corr. for Parallax R.A.	Decl.
	d h m s	h m s	° ′ ″		s	″
Mar. 14	7 37 17	1 50 19·23	+29 31 41·4	0·2480	+0·24	+3·1